High Purity - Pharmaceutical Grade PES, 0.2µm and 0.1µm
Hydrophilic Polyethersulfone Membrane Cartridges for Pharmaceutical and Biological Applications

DS_PPES_170605

PPES Pharmaceutical Grade filter cartridges are ideal for sterile filtration and clarification of pharmaceutical and biological solutions. Each PPES cartridge is integrity tested during manufacturing and is supported by a validation guide for regulatory compliance. Low protein binding and the broad chemical compatibility characteristics of the polyethersulfone membrane, along with exceptional flow rate vs pressure drop, makes the PPES series the ideal choice for a variety of valuable and/or critical pharmaceutical solutions.

PPES cartridges are fully validated as sterilizing grade filters in accordance with HIMA and ASTM F838-05 guidelines. For the 0.2 micron series elements, validation studies demonstrate sterile effluent is achieved with challenge concentration in excess of 10⁷ Brevundimonas diminuta organism per cm² of filter area. Additionally, validation studies of 0.1 micron series elements demonstrate 10⁻⁸ retention of Mycoplasma (Acholeplasma laidlawii) per cm² of filter area.

Flow Rate vs Pressure Drop

Typical Applications
- Vaccines
- Large Volume Parenteral (LVP’s)
- Water for Injection (WFI)
- Diagnostics
- Ophthalmics
- Cell and Tissue Culture Media
- Protein Solutions
- Serum and Blood Products

Sterilization
- Hot Water......85° - 95°C, 30 min., max. ∆P 7 psi
- In-Line Steaming.................134°C, 30 min., max. ∆P 7 psi; 100 cycles

Dimensions
- Length: 10 to 40 inches (25.4 to 101.6 cm) nominal
- Outside Diameter: 2.70 inches (7.0 cm) nominal

Maximum Recommended Operating Conditions
- Temperature.................176°F (80°C)
- Forward.....................72 PSI (5 bar) at 68°F (20°C)
- Reverse.................29 PSI (2 bar) at 176°F (80°C)

Food Safety Compliance
Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

Ordering Information

<table>
<thead>
<tr>
<th>PPES</th>
<th>Rating (µ)</th>
<th>A</th>
<th>Length, Nominal</th>
<th>C</th>
<th>End Cap Style</th>
<th>O-Rings/Gaskets</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>10&quot; (25.4 cm)</td>
<td>2 = DOE Flat Gasket</td>
<td>B = Buna-N</td>
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<tr>
<td>0.2</td>
<td>20&quot; (50.8 cm)</td>
<td>3 = 222 w/ Fin</td>
<td>E = EPDM</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>30&quot; (76.2 cm)</td>
<td>4 = 222 w/ Flat Cap</td>
<td>S = Silicone</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>40&quot; (101.6 cm)</td>
<td>6 = 226 w/ Flat Cap</td>
<td>V = Viton®</td>
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</tbody>
</table>

Note: O-ring adapters include integral reinforcement that will not deform with repeated steam sterilization or hot water sanitation cycles.

Toxicity
All polypropylene components meet the specifications for biological safety per USP Class VI – 121°C for plastics.

Disclaimer: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type, fluid properties, flow rates and environmental conditions. It is recommended that users conduct thorough qualification testing to assure the product functions as required.